

**Counterpoint and Dissonance Treatment
in
Juan Bermudo's
Book V "De Composición"
from
Declaración de Instrumentos Musicales (1555)**

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Counterpoint and Dissonance Treatment in Juan Bermudo's Book V "De Composición" from

Declaración de Instrumentos Musicales (1555)¹

Introduction

In the following pages, I will survey the subjects of counterpoint and dissonance treatment techniques; we will learn, through this reading, that the actual renaissance practise of music, reflected in Juan Bermudo's treatise, could be far more modern and less rigid than what is reflected in other contemporary treatises. We will also discover that chromatic motion, and dissonant melodic and harmonic intervals were actually permitted and used, under certain circumstances; and, finally, we will see some novelties in voice-leading procedures that anticipate other treatises by a century. Before proceeding to the survey, I will present a short biographical note on Bermudo, to situate him and his treatise in the historical context.

Few facts are known about Juan Bermudo's life, and most of them come from references he made in his own books. He was born in Écija, Spain, and, at the age of 15, joined the Franciscans. He studied at the University of Alcalá de Henares, which guaranteed him a vast and solid humanistic formation. He occupied the posts of guardian (*guardián*) and later became *definidor* (the Franciscans' ruling body of the province of Andalucía). He was not a professional but a self taught musician, and, as he mentions in his book, he devoted the rest of his life to the study of music, due to an illness that forced him to quit all his other duties. The dates of his birth and death are still unknown.²

¹ Bermudo, Juan. "De Composición". *Declaración de Instrumentos Musicales*. Spain, 1555; Edition: Faksimile-Nachdruck/hrsg. Von Macario Santiago Kastner. Kassel: Barenreiter-Verlag, 1957.

² Wolfgang Freis and Bonnie J. Blackburn. "Bermudo, Juan." In *Grove Music Online. Oxford Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/02835> (accessed December 10, 2008).

Bermudo's *Declaración de Instrumentos Musicales* can be considered as one of the most important treatises written in Spain in the sixteenth-century and a product of a long-lasting music tradition. Since the end of the fifteenth-century, the production of music manuals and treatises reflected a very active practical and intellectual life in music. Mainly two kinds of treatises can be distinguished in the entire production in fifteenth- and sixteenth-century Spain: those strongly concentrated on theoretical and speculative discussions, with a strong humanistic influence, and those essentially focused on practical and technical matters. Among the first group, probably Francisco Salinas' *De Musica Libri Septem*, published in 1577 – twenty-two years after Bermudo's treatise – is the best example.³

But there is a third category formed by a small number of Spanish treatises, which, however, seem more interesting by the recognition of an equal importance to both aspects of music, the practical and the theoretical, as complements of the same science and activity. Bermudo's treatise finds its place in this category; his *Declaración de Instrumentos Musicales* was the first book published in Spain with these characteristics. "*Bermudo has all the qualities of a collector, presenting all the existing theoretical material, with the goal of transmitting it to facilitate the learning of music.*"⁴

Some dates are useful to place Bermudo's treatise in the proper history of Music Theory: Bermudo published his treatise in 1555, eight years after Enricco Glareanus had published his *Dodecacordon* in 1547; Niccolo Vicentino published his *L'antica musica ridotta alla moderna prattica* in that same year Bermudo's treatise was published, while the publication of Gioseffo Zarlino's *Le institutioni harmoniche* took place three years later, in 1558; not mentioning that Pietro Aaron's *Lucidario in Musica* was written in 1545, ten years earlier than Bermudo's, and Tomás de Santa María's *Arte de tañer fantasía* was published in 1565, ten years later.

³ Otaola González, Paloma. *Tradición y Modernidad en los escritos musicales de Juan Bermudo*. Edition Reichenberger, 2000.

⁴ "Bermudo tiene el talante de un compilador, presentando todo el material teórico existente, con el fin de transmitirlo y de facilitar el aprendizaje de la música." Otaola González, Paloma. *Tradición y Modernidad en los escritos musicales de Juan Bermudo*. p. 15.

As it will be seen, Juan Bermudo's *Declaracion de Instrumentos Musicales* is the product of a progressive and unprejudiced mind; his explanations and arguments are concise and precise, and, when talking about counterpoint and dissonance treatment, are also supported by actual music and practises.

Counterpoint and Composition

Counterpoint and composition have a close relationship in Bermudo's teaching system. Although Bermudo mentions that the literal meaning of the term 'counterpoint' is dot-against-dot, where commonly the motion of the voices is contrary with respect to each other, he emphasises that "*counterpoint (generally speaking) is nothing else but the inventive science of finding the parts of what is about to be composed. Or, counterpoint is (in few words) melody's father.*"⁵ This reference is complemented by another passage, where he refers to the improvisation on a plainchant (*canto llano*) with many melodies: "*Counterpoint is an improvised ordering [of notes] on plainchant, with diverse melodies.*"⁶ Composition, conversely, refers to a "*collection or the joining together of many discrete parts, different in harmony, with particular concordances and special beauty or art (or: skills and principles).*"⁷ From these definitions, it is clear that Bermudo considered counterpoint as the art or skill of improvisation while composition meant a posterior process, through which the diverse improvised melodies were organised, following certain principles, to produce "*particular concordances and special beauty.*" Moreover, there were some cases in which musicians' counterpoint skills were so accomplished, that the improvised music could already be considered a composition, as illustrated in the following passage: "*There are men so expert on this [counterpoint]... that make it in many voices, so accurate and fugal, that it seems a composition on the entire study of the world... I*

⁵ "El contrapunto (hablando en general) no es otra cosa sino sciencia inventiva de hallar las partes de lo que se ha de componer. O es contrapunto (en breves palabras hablando) padre de la melodia." Bermudo, Juan. "De Composición." Chapter XVI, folio cxxviii[r].

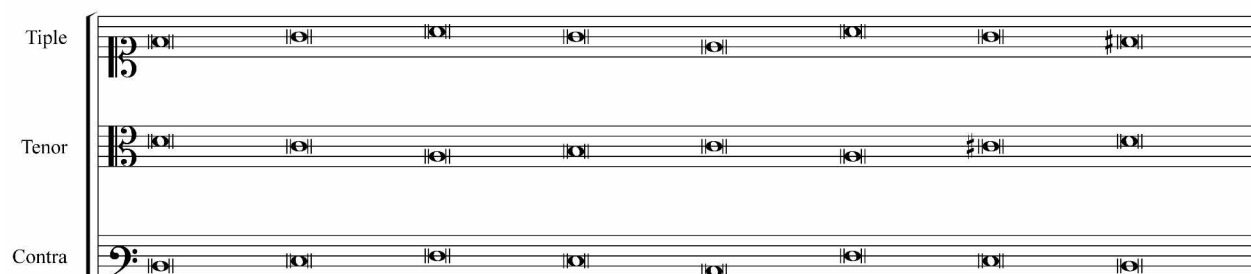
⁶ "El contrapunto es una ordenacion improvisa sobre canto llano, con diversas melodias." Bermudo, Juan. "De la Composición." Chapter XVI, folio cxxviii[r].

⁷ "... coleccion, o ayuntamiento de muchas partes discretas, y distintas de armonia, con particulares concordancias, y especiales primores." Bermudo, Juan. "De la Composición." Chapter XVI, folio cxxviii[r].

saw such skilful singers producing counterpoint that, if it were written, it would be sold as a good composition.”⁸ For Bermudo, the skill of counterpoint is so essential that he is convinced every single musician should cultivate it; moreover, he even mentions that there are two kinds of composers, those who compose by counterpoint and those who do not, but “*the most used and accurate way of composing is by counterpoint.*”⁹ Consequently, in Bermudo’s mind, the improvisational skill of counterpoint is the origin of any artistic composition.

Mainly, there are two types of counterpoint that Bermudo calls “plain” (*Llano*) and “dissimilar” (*Desemejante*). Plain counterpoint refers to unmeasured polyphony, in which the contrapuntal line, or lines, join the *cantus firmus* in a note-against-note polyphonic texture (See Ex.4). Conversely, dissimilar counterpoint refers to the use of the different species of counterpoint; within this type thus there are two “subspecies” which Bermudo calls “forced” (*Forzoso*) and “freed” (*Libertado*). The former refers to the use of a single rhythmic value all throughout the contrapuntal line, while the latter refers to counterpoint in “mixed” species.

Ex.4 – Plain counterpoint.¹⁰



Bermudo mentions another type of counterpoint, which he calls “concerted.” It refers to the improvisational activity that takes place when two singers meet together to create polyphony on a plainchant; although Bermudo recognises that he does not know the rules for this type of

⁸ “Ay hombres en ello tan expertos... que así lo hechan a muchas bozes, y tan acertado, y fugado, que parece composicion sobre todo el estudio del mundo... vi tan diestros cantores hechar contrapunto, que si se puntara, se vendiera por buena composicion.” Bermudo, Juan. “De Composición.” Chapter XVI, folio cxxviii[r].

⁹ “El modo mas usado, y acertado es componer por contrapunto.” Bermudo, Juan. “De Composición.” Chapter XVIII, folio cxxix[v].

¹⁰ Bermudo, Juan. “De Composición.” Chapter XVIII, folio cxxix[r].

counterpoint, he gives three general rules or recommendations: both singers must know well, by praxis, all the rules and principles of counterpoint; they both must have composed polyphony (from there they would have learnt what to do in counterpoint under any circumstance); and both must know each other well as singers, for they will know what to expect from each other when improvising together.

In conclusion, we can infer that counterpoint had two connotations. The first one described a type of musical texture, opposed to monophony; the second one referred to the musical activity of improvisation that creates new melodies (“*melody’s father*”) in a polyphonic context, and which served as a basis to the posterior and more elaborated and detailed activity of composition.

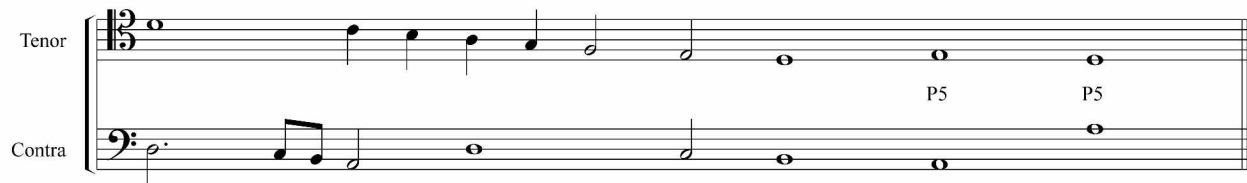
Contrapuntal Techniques

On contrapuntal techniques, Bermudo presents some imaginative and innovative examples featuring sounding parallel perfect intervals, parallel tenths, and unresolved diminished fifths. As it will be shown, all these techniques, no matter how modern they may seem, were current in the music practise at Bermudo’s time and were rooted in musical traditions.

To introduce his examples, Bermudo starts from the traditional division of the intervals into perfect and imperfect consonances, and dissonances. The perfect unison, the perfect fifth, and their compounds, make up the perfect consonances; major and minor thirds, major and minor sixths, and their compounds make up the imperfect consonances, and all seconds, fourths (perfect, augmented, and diminished), sevenths, the diminished fifth, and all their compounds, group the dissonances. On the use of consonant intervals, Bermudo mentions three basic principles. The first principle states that any polyphonic composition must start with a consonance, perfect or imperfect, and preferably end with a perfect consonance, although a major third may also be permitted. The second principle refers to the consecutive use of the same perfect consonance; parallel and similar motions to perfect consonances are forbidden, so the use

of consecutive perfect intervals is only allowed as a result of the voices' contrary or similar motion while preparing a cadence or in cadence-manner (*modo de clausula*). To illustrate this exception he presents the following example.

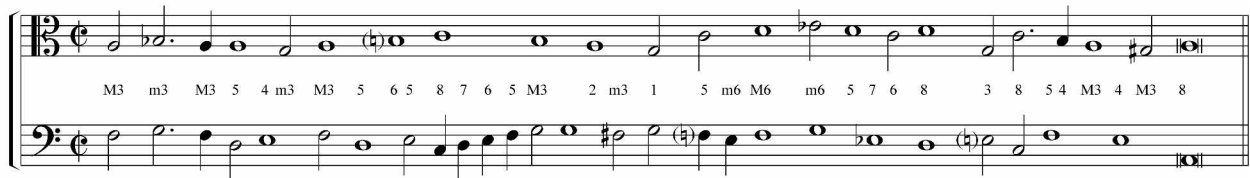
Ex.5¹¹



is hard to detect the fifths progression, because it is being ‘dressed’ by the other two voices’ motions, but, nevertheless, it shows us that this technique was current in Bermudo’s time.

The third principle deals with the use of consecutive imperfect intervals. Parallel thirds and sixths are allowed, but Bermudo considers that they should ideally alternate with perfect intervals to produce worthy music; moreover, he even recommends alternating the quality of the imperfect intervals when placing them one after the other in parallel motion, so consecutive major or minor thirds, or sixths, should be avoided, as shown in Ex.7; it is only at cadences where the use of parallel major thirds would be preferred.

Ex.7¹⁴



We can see in this example that Bermudo makes a clever use of accidentals to alternate the quality of the intervals in the context of consecutive imperfect intervals. The *ficta* B-flat in the upper voice, functioning as a chromatic upper neighbour, breaks the parallel major thirds that would have occurred if the diatonic B-natural had been left. Similarly, the *ficta* F-sharp in the lower voice, functioning as a chromatic leading-tone that resolves into a unison, prevents the diatonic parallel major thirds between the diatonic G/B and F/A.¹⁵ Finally, the *ficta* E-flat in the upper voice, functioning as a chromatic upper neighbour, avoids the diatonic parallel major sixths between F/D and G/E.

On the use of dissonances, Bermudo also gives three basic principles, mainly reproducing the traditional contrapuntal rules. The first principle states that dissonances struck simultaneously should be avoided, and one of the two notes creating the vertical dissonance should be struck

¹⁴ Bermudo, Juan. “De Composición.” Chapter XXI, folio cxxxii[r]. The interval labels have been added to facilitate the reading.

¹⁵ Here, I assume that dissonant suspensions are mere decorations by the rhythmic displacements of consonant intervals.

before the other to create a dissonant suspension. The second principle prevents against the use of any parallel or consecutive dissonant interval. The third principle deals with the use of dissonances in one voice with shorter rhythmic values, against longer note values in the other voice; Bermudo says that dissonances in shorter rhythmic values should only be used on the upbeats, because downbeats are reserved for “good” notes (consonances). To illustrate this principle, Bermudo provides the following example, consisting of two different contrapuntal realisations above the same plainchant.

Ex.8¹⁶

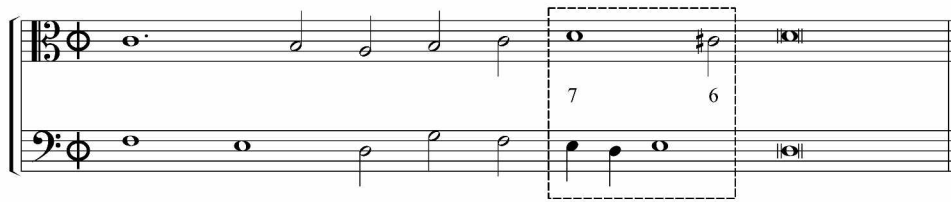
The first one is an incorrect contrapuntal realisation; the third minim within the first breve is occupied by a seventh, a dissonance, and the third minim within both the second and third breves are ninths, which are also dissonances (see the arrows); consequently a dissonance is sung on the second, fourth, and sixth downbeats of the realisation, breaking the mentioned rule in each of the first three breves. Conversely, the second counterpoint presents the proper way of using odd and even beats: “*If above a breve on D sol-re, four minims are played from F fa-ut to mi on b fa b-natural mi, it started correctly with a third, being the first minim; the third minim was fine on a la-mi-re; the second minim on G sol-re-ut, being a fourth; and the fourth minim was a major*

¹⁶ Bermudo, Juan. “De Composición.” Chapter XXII, folio cxxxii[v].

sixth.”¹⁷ On the following breves the rule is also preserved; the first and second semi-breves make tenths with the corresponding second and third breves.

This rule should be kept in both long and shorter measures, but there is an exception to this rule, if a shorter measure is used; when preparing a suspension before a cadence, there can be a dissonance where a consonance should have been placed, as shown in the next example.

Ex.9¹⁸



The first semi-minim in the lower voice makes a seventh with the semi-breve in the upper voice; although it should have been a consonance, Bermudo allows it here because it is preparing the cadence. But besides these basic principles, more elaborated, unusual, or even controversial, uses of dissonances, or contrapuntal and voice-leading techniques are discussed throughout the book.

Three contrapuntal techniques are explained in the book. Bermudo attributes the first one to Franchino Gafurios: “*Franchino gives one [technique], and because it is easy and useful for everybody, I give it the first place. If you know counterpoint but do not have book of polyphony, or there are no singers, you can make the uppermost voice sing always a tenth above the plainchant, and then make up a tenor line.*”¹⁹ This technique thus consists of the use of parallel tenths in the outer voices while improvising an inner melodic line; the only restrictive rule for the

¹⁷ “Si sobre un breve puesto en D *sol-re*, hechas cuatro minimas desde F *fa-ut* hasta el mi de b-fa becuadro-mi, comenzo la buena en tercera, y fue la primera minima; la tercera minima fue buena en a *la-mi-re*, la segunda minima que dio en G *sol-re-ut* hizo cuarta, y la cuarta minima fue sexta mayor.” Bermudo, Juan. “De Composición.” Chapter XXII, folio cxxxii[r].

¹⁸ Bermudo, Juan. “De Composición.” Chapter XXII, folio cxxxii[v]. A dotted box has been added to facilitate the localization.

¹⁹ “Franchino pone uno, y por ser facil y util para todos: le doy el lugar primero. Sabeyz contrapunto, y no teneys libro de canto de organo, o no ay cantores: podeys hazer que un tiple lleve siempre una dezena sobre el canto llano, y hechareys, un tenor.” Bermudo, Juan. “De Composición.” Chapter XXXI, folio cxxxviii[r].

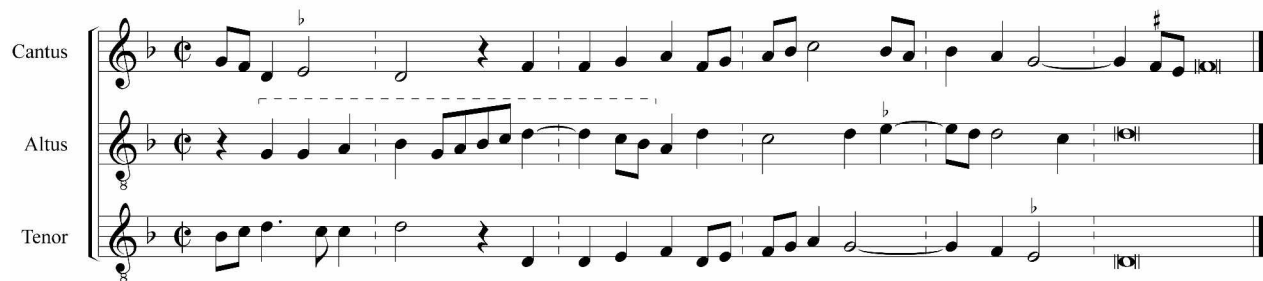
inner line is that it must avoid consecutive thirds and/or sixths with either voices, so to evade parallel perfect-interval motion. The following example illustrates this technique.

Ex.10²⁰



In the example above, Bermudo not only manages to avoid parallel perfect-intervals between *tenor* and any of the outer voices, but he also achieves to write a canon and then an imitation. To illustrate this ‘parallel tenths’ technique in another compositional context, an extract from Cristóbal de Morales’ *Missa Aspice, Domine* is presented in the following Ex.11. This extract presents a *soggetto* in the *altus* that is imitated four minims later by the *cantus* and *tenor* in parallel tenths. Here the contrapuntal progression in parallel tenths is decorated at the third beat of the fourth bar of the excerpt, where a 4-3 suspension and a lower neighbour quaver occur.

Ex.11²¹



The second contrapuntal technique is the use of consecutive fifths; “*So, concerning these fifths in a row, one is perfect and the other imperfect, which is not dissonant because it is in a prepared cadence. As far as both fifths are dissimilar, they agreed one after the other, without*

²⁰ Bermudo, Juan. “De Composición.” Chapter XXXI, folio cxxxvii[r].

²¹ Morales, Christobal de. *Opera Omnia*. Missarium Liber Primus (Vol. I). Rome, 1544. Credo, p.54.

breaking the rule [of parallel fifths]...”²² I think the use of this technique makes sense in this particular context, first, because the rule of parallel fifths or octaves refers only to two perfect intervals in parallel motion, implying that the two voices creating parallels move in the same direction and by the same distance. Conversely, when a perfect fifth is followed by a diminished fifth, or vice-versa, the motion is only similar, as one of the voices moves a shorter distance, from one note to the next, than the other voice, so, strictly speaking, we cannot talk of perfect parallel motion.

Ex.12²³

In the example above, the *tenor* moves a semitone while the *tiple* moves a whole-tone (see dotted boxes), avoiding the strict parallel motion. Aurally speaking, we tend to judge as poor any voice leading in which a diminished fifth is followed by a perfect fifth, because of the unresolved dissonance, as expressed in Zarlino’s treatise: “*we may on occasion write the semidiapente in a single percussione. We may do so when it is immediately succeeded by the ditone... We must take care, however, that the semidiapente or tritone be preceded immediately by a perfect or imperfect consonance. The semidiapente is then tempered by the preceding and following consonances in such a way that the effect is no longer poor, but good, as experience has proved.*”²⁴

²² “Asi que, de las dos quintas junctas la una es perfecta, y la otra imperfecta: la cual por ser en clausula preparada no disuena. Pues como las quintas sean desemejantes: compadecense una en post de otra: sin quebrantar la regla...” Bermudo, Juan. “De Composición.” Chapter XXXI, folio cxxxvii[v].

²³ Bermudo, Juan. “De Composición.” Chapter XXXI, folio cxxxvii[v].

²⁴ See Zarlino, Gioseffo. *Le institutioni harmoniche*. Venice, 1558; facs. Repr. New York: Broude Bros., 1965. Part three translated by Guy A. Marco and Claude V. Palisca as the *The Art of Counterpoint*, New Haven: Yale University Press, 1968. Chapter 30, pp. 67-68.

But if we read attentively, and follow Bermudo's argument, we can perceive that it is only in cadences when this may occur. In his example, the second minim in the *tenor*, C-sharp, resolves a "7-6" suspension between *tenor* and *contra*, and simultaneously creates a diminished fifth with the *tiple*; the function of this C-sharp is that of a raised leading-tone created by *ficta* practise, which, in combination with the *contra*'s E, implies a cadence to the following D in both voices. At the same time, the diminished fifth created with the *tiple*'s G, according to Zarlino, requires a resolution into a third by contrary motion (which would complement the cadential sonority created by the lower two voices), but the diminished fifth is followed, instead, by a perfect fifth; consequently, the independence of the voices is enhanced. In Zarlinian terms, the *tiple*'s line contradicts the motion implied by the other two voices, by evading the descent motion to the F and moving upwards to the A. Similarly, the diminished fifth between the *tiple*'s F and the *tenor*'s B is followed by a perfect fifth; the B resolves a "7-6" suspension between the *tenor*'s C and the *contra*'s D, creating a major sixth and implying a cadence into C, while the dissonance created between the *tiple* and the *tenor* would require a resolution into a third to complement the cadential sonority. The major sixth is properly resolved in the lower voices, but the upper dissonance – the diminished fifth – progresses to a perfect fifth, instead of moving to a third. Bermudo, in conclusion, allows the progressing from a diminished fifth to a perfect fifth only in cadence-like segments, featuring a sonority of resolution made up of an octave and a perfect fifth, instead of an octave and a major third.

It is possible that this procedure – allowing a diminished fifth to be followed by a perfect fifth – had a history in Spanish music practice, and was quite common among late fifteenth-century Spaniard composers. In Bartolomeo Ramis de Pareia's *Musica Practica*, this procedure is already defended; there, Ramis de Pareia cites his contemporary Tristano de Silva, another Spaniard theorist and composer, saying: "*Yet as Tristano de Silva says about the fifth, it is not prohibited in such a way, because a fifth can follow another fifth when one is a diminished fifth*"

and the other a perfect fifth just as we find in the song ‘Soys emprantis’ and in the other older songs. This however is not to be allowed on complete beats, but only on their parts, that is, in a diminution of the notes...”²⁵ Ramis de Pareia provides no example of the procedure, but Pietro Aaron, in his *Lucidario in Musica*, transcribes the extract from de Silva’s song where the procedure is used, and mentions “Bartolomeo Ramis says that Tristano da Silva said that he can give a fifth after another fifth if one is perfect and the other imperfect, as seen in the old song called ‘Soys emprantis’...”²⁶ The music transcription is as follows:

Ex.13²⁷

Although the argument that justifies the moving from a diminished fifth to a perfect fifth is different in both cases – while in Bermudo it is the “cadence-manner” process, in Ramis de Pareia the argument is the quality of the intervals themselves and their durational values – as we can see, Aaron’s transcription of Silva’s work presents essentially the same actual components as Bermudo’s example. While the lower voices create a 7-6 suspension, the upper line creates a fourth, which is transformed by the *tenor* into a diminished fifth, creating the expectation for a cadence; once the major sixth D-B, in the *baso* and *tenor*, resolves into the C-C octave, the F in the *canto* moves upwards to G, instead of moving downwards to E. Bermudo’s explanation and example thus are completely coherent with Ramis de Pareia’s explanation and Aaron’s

²⁵ Ramis de Pareia, Bartolomeo. *Musica Practica*. Bologna, 1482. With commentary and translation by Clement A. Miller. Hansler-Verlag: American Institute of Musicology, 1993; p. 119.

²⁶ “dice Bartolomeo Rami, che Tristano de Silva diceva, che egli si puo dar una quinta dopo un’altra quinta, cioe l’una perfetta, e l’altra imperfetta, come si vede in quello antico canto chiamato Soys emprantis...” Aaron, Pietro. *Lucidario in Musica*. Venice, 1545. facs. Repr. Bologna: Forni Editore, 1969; Libro Secondo, folio 7[v].

²⁷ Aaron, Pietro. *Lucidario in Musica*. Libro Secondo, folio 7[v].

transcription, from which we may infer that this procedure had been already current for some time before Bermudo's time.²⁸

Finally, the third contrapuntal technique is the retrograde counterpoint, which Bermudo literally calls "crab-like". He describes it as follows: *"There is a way of composing that I call crab-like, in which some voices proceed backwards as crabs. A composer makes a villancico in two voices, but sung by four voices; the two start by the beginning each singing its own line, and the other two start at the end of each line, and, singing the ones against the others, meet at the middle of the villancico."*²⁹

As we saw in these examples, Bermudo's novelties on contrapuntal techniques mainly describe actual practise and music traditions. Bermudo, then, provides strong aural and theoretical explanations for a better understanding of both common and controversial contrapuntal practices.

Dissonance Treatment

On the topic of dissonance treatment, Bermudo also starts from the certainty of well known established rules to then present some unusual and controversial cases, featuring chromatic motion, unresolved leading-tones, and dissonant melodic intervals; Bermudo uses these examples to expand the theoretical framework, justifying and explaining actual musical practises. As we will see, Bermudo sometimes utilises "practise" as his main argument to defend those controversial or unusual voice-leading techniques, and tries to come up with convincing explanations, based on aural perception and theoretical principles.

²⁸ Robert Stevenson mentions other Spaniard composers contemporaries to Ramis de Pareia and de Silva, who also seem to have used this procedure. See Stevenson, Robert. *Spanish Music in the Age of Columbus*. The Hague: Martinus Nijhoff, 1960; Photomechanica reprint, 1964. p. 59.

²⁹ "Ay un modo de componer que yo llamo cangrejos, que unas bozes cantando del reves proceden a manera de cangrejo. Un componedor hace a dos bozes un villancico, y cantanlo quatro: los dos comienzan al principio cada uno por su boz, y los otros dos en fin de las bozes, y cantando unos contra otros se encuentran en la mitad de tal villancico." Bermudo, Juan. "De Composición." Chapter XXXI, folio cxxxvii[v].

The first dissonant treatment is that referred to the tone and the minor semitone.³⁰ Both intervals are used in dissonant suspensions leading to cadences; in both cases, the upper voice must create a 2-3 dissonant suspension, that the lower voice has to resolve. To illustrate his explanation, he gives the next example.³¹

Ex.14



Bermudo explains that the dissonance can be caused also by the lower voice too, and it is more effective if the interval is compound: “*I do not consider it an inconvenience if the lower voice makes such a motion, mainly when prepared in compound intervals.*”³² To illustrate this point, Bermudo gives the next example and explains that the low G in the *tenor* line, and the syncopated A, in the *tiple* line, make a dissonance, which has been prepared by two elements (see dotted box). First, the *altus* gives an octave above the *tenor*, and a ninth below the *tiple*; being the octave the most perfect of all consonances, and being used as a fundament in this example, “*it covers the falsehood of the higher dissonance.*”³³ Second, the *basis* creates a suspension of a seventh with the *tiple*. All three dissonances, the *tiple*’s A against each one of the notes in the other voices, end up being resolved into an octave, a thirteenth, and a fifteenth. The following is the illustration provided.

³⁰ By the labeling of the intervals between E and F as minor semitone, and between F and F-sharp, and C and C-sharp as major semitones, we can infer that Bermudo used Pythagorean tuning system as reference.

³¹ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[r].

³² “Hacer la boz baxa el tal movimiento no lo tengo por inconveniente mayormente dandose con preparacion en los intervalos compuestos...” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[r].

³³ “... encubre la falsedad de la dissonancia aguda.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[v].

Ex.15³⁴

The musical score consists of four staves labeled Tiple, Altus, Tenor, and Basis. The Tiple and Altus staves are in 13/8 time. The Tenor and Basis staves are in 13/8 time. The score shows a dissonant suspension of a second between the Tiple and Altus voices, which is then resolved into an unison. A dashed box highlights the suspension and its resolution.

In this case, I think Bermudo shows a novelty in his teachings by allowing the lower voice to become the “agent” of the dissonant suspension of a second, and forcing the upper voice to resolve it into an unison, or letting the lower voice produce a dissonant suspension of a ninth, resolved by the upper voice into an octave, as shown in the example above. Traditionally, it was thought that the role of the upper voice was to be the “agent” that creates this dissonance, which the lower voice would resolve into a third; this rule was supported by the fact that every dissonant suspension resolves by stepwise descent into an imperfect consonance, and happens to be that the second below the “agent” is the only dissonant interval that is a step above an imperfect consonance. On the one hand, a seventh or a fourth in the lower voice would resolve downwards into a perfect octave or a perfect fifth respectively; on the other hand, a second in the upper voice would resolve into a perfect unison. Consequently, the only dissonant suspensions permitted above were the 9-8, the 7-6, and the 4-3, while the 2-3 and the 4-5 suspensions were the only allowed below.³⁵

The second dissonance dealt with is the melodic major semitone.³⁶ *“The way of using it (not by the use of consonance, but by a single voice motion, as used in the chromatic genre) is*

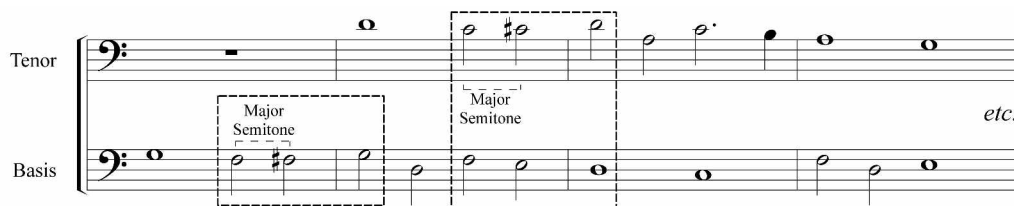
³⁴ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[r].

³⁵ Zarlino says: “When the dissonance occupies the second half of a syncopated semibreve and forms the interval of a second against the subject, it is best followed by a third as a nearest consonance. The fourth is also followed by the third in similar circumstances. The seventh is followed by the sixth, which is closest to it. The compounds are treated in the same way...” Zarlino, Gioseffo. *Le Istitutioni Harmoniche*. Part three; p. 97.

³⁶ See footnote 30 on page 15.

new... Being well prepared, we can make use of this major semitone, as shown in the following example.”³⁷

Ex.16³⁸



Bermudo supports this example by giving three reasons: “*The first, it [the major semitone] is not called unsingable because it cannot be sung in the wide spectrum of music, but it is called unsingable in the diatonic genre. But as everything that is played and sung nowadays in composition is a mixture of diatonic and chromatic genres, there is place to use such a major semitone. I presuppose the latter, in the coming to an octave from a sixth, this must be a major and not a minor sixth... third, I say that four-tone [augmented] fifths cannot be made...*”³⁹ The example is thus clear enough, the C-sharp comes from C-natural – an interval of a major semitone – and goes to D, functioning melodically as a chromatic passing-tone between C and D; the interval formed by the C-sharp, in the *tenor*, and the E in the *basis*, is a major sixth, which is then resolved into a perfect octave, creating thus a proper cadence and functioning simultaneously as a *ficta* leading-tone; finally, the previous interval, a perfect fifth, formed by the C-natural in the *tenor*, and the F in the *basis*, could not be maintained, altering only the C and keeping the F, because a forbidden augmented fifth would have resulted.

The support for the use of the major semitone tells us that Bermudo was less conservative than most of his contemporaries in the acceptance of the actual musical practice. As reference,

³⁷ “El modo de usarlo (no por via de consonancia, sino por movimiento de una boz: como se uso en el genero chromatico) es remosado... Siendo bien preparado podemos usar del sobredicho semitono mayor: segun en el ejemplo siguiente puede ser visto.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[v].

³⁸ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[v].

³⁹ “La primera, que no se dize semitono incantable, porque no se pueda cantar en toda la anchura de la musica: sino dize se incantable en el genero diatonico. Pues como lo que ahora se tañe, y cantan en composicion sea mixto del genero diatonico y chromatico hay lugar de hacer el tal semitono mayor. Presupongo lo Segundo, que viniendo a una octava de sexta: sera con sexta mayor, y no menor... Digo lo tercero, que quinta de quatro tonos no se puede dar...” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxviii[v].

the following examples, from Ramis de Pareia's *Musica Practica* and Aaron's *Lucidario in Musica*, are presented. Ramis says that "if may descend of f, e, d, the organum cannot form k k l [c, c, d], for one of two problems arise, namely, either to move from a minor sixth to an octave or to sing unequal tones in the same place; instead of this one ought to form l k l [d, c-sharp, d]⁴⁰ or h k l [a, c-sharp, d], for then in the first way one descends only through a mentally supplied semitone, but in the second way one ascends by a ditone..."⁴¹ The following example illustrates Ramis de Pareia's descriptions.

Ex.17



Sixty-three years later, Aaron still supports Ramis' argument and states that "it will not be convenient to make two notes of different nature out from the same [staff] line or space, as the two breves in the soprano show... a thing that being uncomfortable and tiring, such space of a major semitone belonging to the chromatic genre and not to the diatonic, it will be obligatory to change the first breve from a fifth to a sixth, even if such a sixth is major..."⁴²

Ex.18⁴³



Similarly, if we consult, for instance, Zarlino's treatises *Le institutioni harmoniche*, we never do find any clear rule or argument defending or sustaining the use of chromatic passing

⁴⁰ In Ramis de Pareia's notation, k basically represents note c, but, depending on the context, it can also represent c-sharp by the use of ficta.

⁴¹ Ramis de Pareia, Bartolomeo. *Musica Practica*, p. 120.

⁴² "... non sara convenevole formare due note nella riga, o spatio di diversa natura... cosa que per essere incommodo, e faticoso tal spatio di Semituon maggiore continente al genere Cromatico, e non al Diatonico, sara dibigsono rimuovere la prima detta breve di Quinta in Sesta anche esa maggiore..." Aaron, Pietro. *Lucidario in Musica*. Libro Secondo, folio 9[r].

⁴³ Aaron, Pietro. *Lucidario in Musica*. Libro Secondo; Openione IX, folio 8[v].

tones, dividing the whole-tone between two diatonic notes into two chromatic steps as in C/C-sharp/D or F/F-sharp/G; Zarlino limits himself to label what he calls minor and major semitones but does not provide any musical example to illustrate their use.⁴⁴

The third dissonance treatment technique presented here deals with the melodic diminished fourth. Bermudo argues that, when properly prepared and resolved, it is a valid interval; he states that some contemporary players fearfully use the fourth “*of one tone and two minor semitones*”⁴⁵ in one voice by skip – as in the example below – because the diminished fourth is forbidden in diatonic music, but, he continues, “*To calm them [the players], and to teach the beginners, I state it can be done, and if it is against diatonic art, it is not against semichromatic art, which is the music we nowadays use. And for a better understanding look at the following example.*”⁴⁶

Ex.19⁴⁷

Bermudo explains his example as follows: “*The alto and the tiple make the referred fourth, and it was made because the alto began a cadence with the bass, but it was taken by the tenor; and the tiple began a cadence with the tenor, but it was taken by the alto.*”⁴⁸ Consequently,

⁴⁴ Zarlino, G. *Le Istitutioni Harmoniche*. Venice, 1558; facs. Repr. New York; Broude Bros., 1965. Part three translated by Guy A. Marco and Claude V. Palisca as *The Art of Counterpoint*, New Haven; Yale University Press, 1968. pp. 36-38. As Zarlino uses Just-intonation, the large semitones are those found between B-C, and E-F; conversely, the minor semitone is found between B-B-flat.

⁴⁵ “... de un tono y dos semintonos menores...” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxix[r].

⁴⁶ “Para quietar a los tales, y enseñar a los principiantes, digo poderse hazer, y si es contra arte diatonica: no lo es contra arte semichromatica, que es la musica que al presente usamos. Y porque mejor se entienda: miren el exemplo siguiente.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxix[r].

⁴⁷ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxix[r].

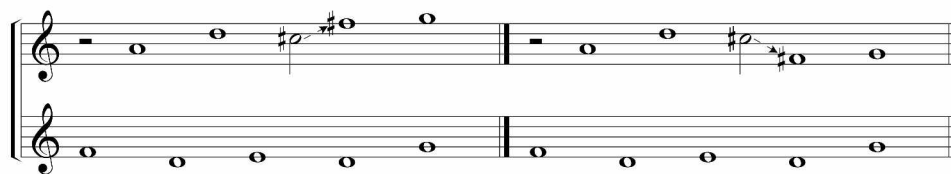
⁴⁸ “El contralto y el tiple hazen la dicha quarta, y se hizo: porque el contralto acometio clausula con el contrabaxo, y se la tomo el tenor: y el tiple acometio clausula con el tenor, y se la tomo el contralto.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxix[r].

the *cantus* and the *altus* have this melodic interval because in each case both voices were resolving a dissonant 7-6 suspension to prepare a cadence, the *altus* with the *basis*, and the *cantus* with the *tenor*. With the second minim, the *altus* resolves the seventh by stepping down a minor second to C-sharp, forming a mayor sixth with the *basis* and preparing a cadence on D; then, the C-sharp skips up a diminished fourth, instead of stepping back up a minor second to complete the cadence on D, evading the cadence. The *tenor*, on the other hand, provides the D into which the *altus*' C-sharp should have resolved, satisfying the voice leading requirement of a proper cadence; the chromatic leading-tone is, then, resolved in by an adjacent voice. This technique is called "adjacent" resolution. The same happens in the *cantus*, where the G-sharp in the second minim resolves the seventh, created by the *tenor*, into a major sixth, promising a cadence on A, but, instead, it skips up to C, instead of resolving to A, which is provided by the *altus* in the right register. Finally, both voices, *cantus* and *altus*, after presenting the dissonant leap, proceeded by stepwise motion in the opposite direction of the skip. Bermudo permits this interval only in what he would call "cadence-manner" (*modo de clausula*), in which one of the voices, after having resolved a suspended seventh into a major sixth, evades the expected resolution into an octave by leaping up a diminished fourth, while a third voice fulfils the cadential requirement by providing the note of resolution.

The consequences of supporting these voice leading techniques, and the argument used to validate them, are very telling. By mentioning that some singers and players already used the diminished fourth, under the circumstances above described, Bermudo does not only implicitly recognise the existence of it in actual practise, contrary to the accepted theoretical principles, but, more important, he recognises the validity and importance of actual practise, beyond any theoretical dogma; it implies the fact that practise is the source of any principle in theory, and that the role of theory is the construction of rational arguments to explain those practises.

It is almost certain that Zarlino would not have defended any process similar to what is called “adjacent” resolution, when evading the resolution of a chromatically raised leading tone by a dissonant leap; moreover, when providing arguments and examples on the use of major sixths, he never goes as far as allowing a skip of a diminished fourth to evade its resolution. There is one illustrative passage in his book, where he explains this process: “*He [the composer] is also permitted occasional use of chromatic steps when progressing from a sixth, made major chromatically, to a major tenth or third. This is reached by a leap of a fourth or fifth, after which he proceeds to the octave or unison...*”⁴⁹ The following is the example provided by Zarlino.

Ex.20⁵⁰



Two things must be remarked. The first one is that Zarlino presents his examples featuring only two voices, so no “adjacent” voice that could resolve the leading tone of the vertical major sixth interval could be provided; consequently, it would be no more than a mere speculation to affirm or reject that Zarlino had contemplated the idea of “adjacent” resolution; but he certainly does not discuss neither mentions it. The second and most important thing is that the skip, by which the leading-tone evades the resolution of the major sixth, is consonant – a perfect fourth or a perfect fifth – and not a dissonant diminished fourth.

Returning to Bermudo’s previous example, the resolution of a leading-tone by another voice seems to anticipate Bernhard’s *Heterolepsis*, the “*taking hold of another voice*,”⁵¹ in which an adjacent voice provides the proper resolution of the voice leading, by more than a century.

⁴⁹ Zarlino, Gioseffo. *Le Institutioni Harmoniche*. Part three; p. 174.

⁵⁰ Zarlino, Gioseffo. *Le Institutioni Harmoniche*. Part three; Example 124; p. 174.

⁵¹ Bernhard, Christoph. *Tractatus Compositionis Augmentatus*. 1660. Translated by Walter Hilse in *The Music Forum* 3; edited by Felix Salzer. 1973. p. 118.

Bernhard came up with the term *heterolepsis* to explain some contrapuntal figures, mainly used by Monteverdi and considered a tool of musical rhetoric, in which the resolution of a dissonant suspension in one voice was provided by another voice.⁵² Here, in Bermudo's example, although the adjacent resolution does not take place to resolve a dissonant suspension, but a leading-tone, it is the concept of resolving the voice leading demands, caused in one voice, by another voice, what is interesting and advanced.

The next technique deals with the correct use of melodic diminished fifths, and melodic augmented and diminished fourths. Bermudo defends their use mainly if two prerequisites are fulfilled: first, the note resulting from any of these dissonant skips, in one of the voices, must create a vertical interval of a major sixth, with any of the lower voices, or a minor third with any of the upper voices; and second, the vertical major sixth, or minor third, must always be followed by an octave, or unison, respectively as if it were in a proper cadence.

Ex.21⁵³

Bermudo explains his example mentioning that the *cantus* presents a leap of a diminished fifth from C down to F-sharp, which, following his principles, is “legal” because it forms a major sixth with the A in the tenor; then both voices move in contrary motion to the octave G-G. Next, the *altus* skips up from D to G-sharp, a leap of an augmented fourth; the G-sharp is also correct because it makes a major sixth with the B of the *tenor*, which then resolves, again by contrary

⁵² Klaus-Jürgen Sachs and Carl Dahlhaus. "Counterpoint." In *Grove Music Online. Oxford Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/06690> (accessed December 10, 2008).

⁵³ Bermudo, Juan. "De Composición." Chapter XXXII, folio cxxxix[v].

motion, into an octave formed by A-A. Finally, a descending skip of a diminished fourth is done by the *altus* voice from F to C-sharp; at this point, the *altus* and the *basis* form a vertical major sixth interval, E-C-sharp, which is resolved into the octave D-D in the same voices.⁵⁴ Although these *three* instances contradict the opinion of both Aaron and Zarlino that the use of melodic dissonances – either by outline or by leap – be rejected,⁵⁵ Bermudo allows such dissonant leaps because the note of arrival is a ‘leading-tone,’ forming a major sixth with a lower voice, which is subsequently resolved by stepwise ascent into an octave; in other words, in Bermudo’s thought, dissonant leaps are legal when leading into cadence-manner processes.

The following technique presents another way to resolve a diminished fifth in cadences. This technique allows the composer or singer to resolve the dissonance “adjacently” by doubling. As it can be seen in Ex.22, the diminished fifth is left unresolved, progressing into a perfect octave instead, but it is covered by the inner voice resolving into the expected note; in this case, the *altus* doubles the *tenor*’s B in the last beat to resolve it upwards by step, “freeing” the tenor from fulfilling the voice-leading requirement of ascending an step.

Ex.22⁵⁶

The image shows a musical score for four voices: Cantus, Altus, Tenor, and Basis. The score is in 4/4 time. A dashed box highlights the final measure, showing the resolution of a cadential diminished fifth. In this measure, the Altus voice doubles the Tenor's B, resolving the dissonance by step.

The next example is a quotation from a Mass by Cristóbal de Morales. The illustration is meant to show an excellent example of the correct use of cadential diminished fifths in actual composition, Bermudo even considers this technique as being the most perfect and artistic of all.

⁵⁴ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxxxix[v].

⁵⁵ See Aaron, Pietro. *Lucidario in Musica*. Libro Secondo; Oppenione XIII, folio 13. Also Zarlino, Gioseffo. *Le Institutioni Harmoniche*. Part three; Chapter 24, pp. 45-48.

⁵⁶ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxl[r] (Here there is a numbering mistake in the original; instead of Folio cxl, Folio cxxxix is repeated).

Bermudo remarks two things in the example: the preparation of the B-flat in the *tenor* by repeating the note, and the use of octaves between the *basis* and the *altus* to cover such dissonance. “*The above-mentioned interval [diminished fifth], made by the tenor and the bass, was prepared by two things: by the octave formed by the alto and the bass; and by the tenor remaining on the b fa b-natural mi. Since the tenor remains stationary when the fa-contra-mi is formed, the dissonance is almost not perceived as struck and is left virtually unheard.*”⁵⁷

Ex.23⁵⁸

So the diminished fifth is properly prepared by being repeated and covered by an octave, but then the same diminished fifth progresses into an octave, instead of proceeding into a third; simultaneously, the *tenor*’s B makes a major sixth with the *cantus*, which is then properly resolved by contrary motion into an octave.

The last defended dissonance is that of the seventh. Here Bermudo shows the traditional 7-6 suspension procedure, previous to the cadence, between the *cantus* and the *tenor*. Specifically, he mentions “*Sometimes, great composers give this seventh in a “quassi-struck” manner.*”⁵⁹ As shown in Ex.24, the seventh between the *altus*’ A and *basis*’ B is prepared in the *altus* line by repeating it, so although being actually re-struck it is not considered a mistake.

⁵⁷ “Fue preparado el sobredicho intervalo (quel tenor y el contrabaxo dan) con dos cosas, conviene a saber con la octava que dieron el contralto y el contrabaxo, y con estarse el tenor en b fa bequadro mi. Por no tener el tenor movimiento de consonancia quando da el fa contra mi: quasi no es de golpe, y queda no muy sentible. Viene la octava del contralto con su perfection y melodia, y haze que ningun dessabrimiento quede.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxl[r].

⁵⁸ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxl[r].

⁵⁹ “Algunas vezes dan authores grandes la sobredicha septima quasi de golpe.” Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxl[r].



Conclusion

Bermudo tries to conciliate theory and practise in one book by recognising both as being equally essential fundamentals of music; Bermudo considered that a good musician should be equally fluent in practice as in theory, although we can infer that, in his thought, music practice was the indispensable basis on which any theoretical activity has to be supported. A proof of it is the preponderance of the improvisatory practice of counterpoint over composition; to compose properly, a musician must be capable of improvising. Another proof is the continuous emphasis on actual practice as an argument to defend unusual or controversial dissonance treatments or voice-leading techniques. His fundamental principle would be that one in which theory is the tool through which musicians come up with logical or rational explanations of actual practical facts; practice does not need to be justified, but explained. This attitude gives him enough intellectual independence to present and defend those unusual and controversial cases.

For instance, Zarlino, in his *Le institutioni harmoniche*, dedicates the entire chapter 72 to discuss in a very general way about the use of other genres of music such as the chromatic and enharmonic, in opposition to the diatonic. Although he recognises that incorporating some elements of these other genres into the diatonic enriches the music (*“Through the aid of chromatic steps we may achieve good, sonorous harmonies and escape poor relationships in the*

⁶⁰ Bermudo, Juan. “De Composición.” Chapter XXXII, folio cxi[r].

diatonic, such as the tritone, semidiapente, and similar intervals...”⁶¹), he never shows nor explains any of these elements or techniques. Bermudo, conversely, actively approves the use of elements from other genres, and even mentions that it was a common practice that he calls semi-chromatic music.

A final element that adds value to this book is its descriptive character; as seen through all this paper, this treatise was meant mostly to teach – although beginners would have struggled – supported by actual music practice. By explaining and describing actual music examples, Bermudo presents valuable historical information that can enrich our vision and understanding of the musical practise at the middle of the sixteenth-century.

⁶¹ Zarlino, G. *Le institutioni harmoniche*. Venice, 1558; facs. Repr. New York: Broude Bros., 1965. Part three translated by Guy A. Marco and Claude V. Palisca as the *The Art of Counterpoint*, New Haven: Yale University Press, 1968. p 281.

Appendix: List of chapter headings

- On the division and meaning of the term tone** (*De la división y significado de la palabra tono*) (chap. i)
- On the modes and tones in general** (*De los modos o tonos en general*) (chap. ii)
- On the invention of modes** (*De la invención de los modos*) (chap. iii)
- On the properties of modes** (*De las propiedades de los modos*) (chap. iv)
- On the same properties after Cicero** (*De las mismas propiedades según Cicerón*) (chap. V)
- On the range or distance of tones** (*Del ámbito o distancia de los tonos*) (chap. vi)
- Where the modes can start and close** (*Donde pueden los modos comenzar y clausurar*) (chap. vii)
- On the finals of each mode** (*De las letras finales de los modos*) (chap. viii)
- Epilogue on recommendations to compose** (*Epílogo de avisos para componer*) (chap. xix)
- What things are required to write plainchant** (*Que cosas se requieren para puntar canto llano*) (chap. x)
- On some skills in plainchant** (*De algunos primores en canto llano*) (chap. xi)
- On how to recognise which tone is being played without looking** (*Para saber que tono tañe uno sin verlo*) (chap. xii)
- On the difference between everything that has been written** (*De la diferencia que ay entre todo lo puntado*) (chap. xiii)
- On the variation of sequences** (*De la diferencia de las sequencias*) (chap. xiv)
- On how many sequences each mode has** (*Cuantas sequencias tiene cada modo*) (chap. xv)
- On counterpoint in general** (*Del contrapunto en general*) (chap. xvi)
- On the division of counterpoint** (*De la división del contrapunto*) (chap. xvii)
- On the consonances in counterpoint** (*De las Consonancias de contrapunto*) (chap. xviii)
- Will Music be perfect if made up of imperfect consonances** (*Si la Música será perfecta componiéndose de consonancias imperfectas*) (chap. xix)
- On the usage of perfect consonances** (*Del uso de las consonancias perfectas*) (chap. xx)
- On the usage of imperfect consonances** (*Del uso de las consonancias imperfectas*) (chap. xxi)
- On the usage of the dissonances** (*Del uso de las disonancias*) (chap. xxii)
- On an artful notice for counterpoint** (*De un aviso artificioso para contrapunto*) (chap. xxiii)
- On the way to teach counterpoint** (*Del modo de enseñar contrapunto*) (chap. xxiv)
- On some differences of counterpoint** (*De algunas diferencias de contrapunto*) (chap. xxv)
- On concerted counterpoint** (*De contrapunto concertado*) (chap. xxvi)
- On some advises to compose 'organ' chant** (*De algunos avisos para componer canto de órgano*) (chap. xxvii)
- On where the voices can give all the notes** (*Donde pueden dar las voces todos los golpes*) (chap. xxviii)
- On the parts of composition and closes** (*De las partes de la composición y de las clausulas*) (chap. xxix)
- On the origin of pauses [or rests]** (*De la causa de las pausas*) (chap. xxx)
- On some artful skills in music** (*De algunos primores en música*) (chap. xxxi)
- On the use of dissonances** (*Del uso de las disonancias*) (chap. xxxii)
- De ciertas preguntas en música** (cap xxxiii)

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